

August 25, 2000

F/SWC2:RBM:JLB
CR9205-1.RBM

CRUISE REPORT

VESSEL: *Townsend Cromwell*, Cruise 92-05 (TC-173)

CRUISE PERIOD: June 4 - July 3, 1992

AREA OF OPERATION: Northwestern Hawaiian Islands (Fig. 1)

TYPE OF OPERATION: Personnel from the Southwest Fisheries Science Center (SWFSC) Honolulu Laboratory (HL), National Marine Fisheries Service (NMFS), NOAA conducted trapping, trawling, diving, and video camera drop operations in the waters of the Northwestern Hawaiian Islands (NWHI). Dr. W. B. Saunders from Bryn Mawr College conducted baited camera drop operations. Supplies and NMFS personnel were delivered to field camps on Tern, Lisianski, and Laysan Islands.

ITINERARY:

- 4 June Start of cruise. On board were Ray Boland, Steven Gregg, Wayne Haight, Boulderson Lau, Theresa Martinelli, Robert Moffitt, Frank Parrish, Bruce Saunders, Amy Sloan, and Molly Tarleson. Departed Snug Harbor at 1000 and proceeded to Tern Island, French Frigate Shoals.
- 6 June Arrived at Tern Island. Off-loaded supplies and disembarked Gregg and Sloan. Proceeded to Lisianski Island.
- 8 June Arrived at Lisianski Island. Off-loaded supplies to the field camp and disembarked Tarleson. Commenced trawling, trapping, diving, and camera drop operations.
- 11 June Embarked Tarleson.

- 12 June Departed Lisianski Island. Proceeded to Laysan Island. Arrived Laysan Island. Off-loaded supplies to the field camp and disembarked Tarleson. Proceeded to Maro Reef.
- 13 June Arrived at Maro Reef. Commenced trawling, trapping, diving, and camera drop operations.
- 20 June Departed Maro Reef. Proceeded to Necker Island.
- 22 June Arrived at Necker Island. Commenced trawling, trapping, diving, and camera drop operations.
- 29 June Departed Necker Island. Proceeded to Tern Island.
- 30 June Arrived at Tern Island. Off-loaded supplies to the field camp and disembarked Boland, Martinelli, and Parrish. Departed Tern Island and proceeded to Snug Harbor, Oahu.
- 3 July Arrived at Snug Harbor, Honolulu, Oahu at 0700. End of cruise.

MISSIONS AND RESULTS:

- A. Conduct lobster trapping operations at selected sites in the NWHI using plastic lobster traps.
1. Collect data on abundance and species composition of trap-captured lobster at two banks in the NWHI to compare with results of previous years.

A total of 146 lobster trapping stations were conducted using black plastic (Fathom's Plus) lobster traps with a 1 in by 2 in mesh. Each station consisted of a single string of traps. Strings were composed of either 8 or 20 traps separated by 20 fm of ground line. Traps were baited with 1.5 to 2 lb of cut mackerel and soaked overnight.

Catch rates of legal spiny lobster were low at Maro Reef (0.17 per trap-night) with catch rates of sublegal spiny lobster catch rates very low (approximately 0.05 per trap-night). Catch rates of legal slipper lobster were rather high at Maro Reef (1.12 per trap-night) with sublegal catch rates also high (approximately 0.30 per trap-night). In general, catch rates of both species were very similar to last year, which was a very poor spiny lobster year for Maro Reef. Lack of short spiny lobster in the catches indicates that a recovery of the stocks is not imminent.

Catch rates of legal spiny lobster were higher at Necker Island (approximately 0.4 per trap-night) with catch rates of sublegal spiny lobster very high (approximately 2.7 per trap-night). Slipper lobster catch rates were low at Necker Island (approximately 0.3 per trap-night for legal and 0.05 for sublegal). As with Maro Reef, catch rates at Necker Island were very similar to last year's catch rates.

2. Obtain length-frequency data on spiny and slipper lobsters to compare with those of previous years and to refine estimates of growth and mortality.

Carapace length and tail width measurements were recorded for approximately 2,500 spiny and 1,000 slipper lobsters.

- B. Describe lobster habitats to compare habitat type with lobster abundance and habitat status of previous years.

A total of 4 reef survey stations, 8 drop dive stations, 7 towed sled dives, and 41 video camera drops were conducted over lobster trapping sites.

- C. Collect lobster larvae to add to information regarding phyllosome distribution within the Hawaiian Archipelago.

A total of 27 trawls were conducted using an OSU rope trawl. Trawls were conducted near the surface at night in all four compass directions about 25 nmi from the 100 fm contours of Lisianski Island, Maro Reef, and Necker Island. Preliminary analysis indicates that numbers of spiny lobster pueruli in the samples are unusually high.

- D. Set underwater remote camera at selected sites to observe bank associated fauna.

A total of 7 camera drop stations were conducted at depths of 40 to 400 fathoms.

**SCIENTIFIC
PERSONNEL:**

Robert B. Moffitt, Chief Scientist, National Marine Fisheries Service (NMFS), Southwest Fisheries Science Center (SWFSC), Honolulu Laboratory (HL).
 Ray Boland, Cooperating Scientist, University of Hawaii (UH).
 Steven Gregg, Research Assistant, NMFS, SWFSC, HL.
 Wayne R. Haight, Research Analyst, NMFS, SWFSC, HL.
 Boulderson B. Lau, Research Assistant, NMFS, SWFSC, HL.
 Theresa Martinelli, Cooperating Scientist, UH.
 Frank A. Parrish, Fishery Biologist, NMFS, SWFSC, HL.
 W. Bruce Saunders, Cooperating Scientist, Bryn Mawr College.

Amy Sloan, Research Assistant, NMFS, SWFSC, HL.
Molly Tarleson, Research Assistant, NMFS, SWFSC, HL.

Submitted by: _____
Robert B. Moffitt
Chief Scientist

Approved by: _____
George W. Boehlert
Director, Honolulu Laboratory

Attachment